

REMARKS

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested. Claims 1-16 and 18-19 are pending in the current application. Of those, claims 1, 18, and 19 are independent claims. Claims 1, 2, 5, 7, 8, 12, 18 and 19 have been amended in a non-narrowing manner, noting that these amendments were not made for any reason relating to patentability. No new matter has been added.

Applicants note with appreciation the Examiner's acknowledgement that certified copy of the priority document has been received by the U.S.P.T.O.

Applicants also respectfully note the present action indicates that the drawings have been accepted by the Examiner.

Claim Objections

Claim 12 is objected to because of minor following informalities. Applicants have amended this claim taking into account the Examiner's suggestions.

Withdrawal of this claim objection is respectfully requested.

Claim Rejections - 35 U.S.C. §103

Claims 1-16, 18 and 19 are rejected under 35 U.S.C. §103(a) as being unpatentable over Peters (U.S. Patent No. 5,715,334) in view of Chalana et al. (U.S. Patent no. 7,041,059).

In the current Office Action, the Examiner correctly recognizes that Peters fails to disclose *"combining the first CT image and one or more of the one or more processed CT images or at least two of the processed CT images, whereby an enhanced CT image is provided, the combining being based on a classification with respect to intensity*

values of regions within at least one of the first CT image and the one or more processed CT images" as recited by claim 1. (Office Action, pages 4-5). Instead, the Examiner relies on Figs. 7 and 8 of Chalana to cure the above deficiencies with respect to claim 1. Applicants disagree.

Chalana is directed to a hand-held 3D ultrasound instrument used to non-invasively and automatically measure amniotic fluid volume in the uterus. (See Abstract).

In Figs. 7 and 8A-C, Chalana illustrates a block diagram overview of image enhancement, segmentation, and polishing algorithms of the amniotic fluid volume measuring system.

In Chalana, after unprocessed image data is entered and subjected to an image enhancement algorithm, the image data is segmented by two methods whose results are eventually combined (column 9, lines 40-45). The first segmentation method applies an Intensity-Based segmentation algorithm (422) that determines all pixels that are potentially fluid pixels based on their intensities. The second segmentation method applies an Edge-Based segmentation algorithm 438 that relies on detecting fluid and tissue interfaces (column 9, lines 47-54).

After the two segmentation methods are completed, the results are combined using a pixel-wise Boolean AND operator 442 (column 14, lines 48-52). The Boolean AND operation produces a segmented image by computing the pixel intersection of two images. As such, the Boolean AND operation takes the binary of any two digital images as input, and outputs a third image with the pixel values made equivalent to the intersection of the two input images.

However, while Chalana arguably combines two images using an AND operator, the AND operation does not teach or even fairly suggest that the combination is based

on any kind of classification. In fact, the AND operation and the results of the combination does not even include a classification of the images being combined. As such, the AND operation combination cannot be based on a classification.

Accordingly, Chalana fails to teach or disclose *"combining the first CT image and one or more of the one or more processed CT images or at least two of the processed CT images, whereby an enhanced CT image is provided, the combining being based on a classification with respect to intensity values of regions within at least one of the first CT image and the one or more processed CT images"* as recited by claim 1.

Furthermore, because Peters is directed to image information enhancement for digital images and Chalana is directed to amniotic fluid volume measurements, Applicants submit that one skilled in the art would not look to combine the teachings of Peters and Chalana. Indeed, both of these art references are too far removed from one another and to even be considered by persons of ordinary skill in the art.

Moreover, beyond a mere conclusory statement, the Examiner does not provide any motivation for combining the art references, Peters and Chalana. Specifically, the Examiner only states that "it would have been obvious to one of ordinary skill in the art to use [an] AND operator to combine the intensity based segmentation (422) and the edge based segmentation (432) in the intensity value calculation of Peters in order to have a better, non-invasive and easier way to accurately measure amniotic fluid" (see Office Action, page 5).

Notwithstanding the unfeasibility of the above statement, the Examiner does not provide any rationale underpinning for how one of ordinary skill would replace the step of adding a differential image and an original image (as described in Peters) to a step that *"combining the first CT image and one or more of the one or more processed CT images or at least two of the processed CT images, whereby an enhanced CT image is*

provided, the combining being based on a classification with respect to intensity values of regions within at least one of the first CT image and the one or more processed CT images” as recited by claim 1.

Accordingly, Applicants submit that the combination of Peters and Chalana is improper, and any motivation to combine Peters and Chalana to teach the features of claim 1, would be at best an attempt at impermissible hindsight reconstruction. (See *In re Kahn* 441 F.3d 977 (Fed. Cir. 2006). The Federal Circuit holding that impermissible hindsight will be inferred in an obviousness rejection when the Board does not articulate a reason for the motivation or suggestion to combine the prior art to arrive at the invention.)

Therefore, even in combination (assuming *arguendo* such a combination could be made, which Applicants do not admit), Peters and Chalana fail to render independent claim 1 obvious to one of ordinary skill in the art.

As to dependent claims 2-16, Applicants submit that these claims are patentable at least by the virtue of their dependency upon amended independent claim 1.

Claims 18 and 19 contain features somewhat similar to those discussed above in regard to claim 1, and therefore, claims 18 and 19 are patentable for at least somewhat similar reasons as claim 1 (noting that claims 18 and 19 should be interpreted **solely** based upon limitations set forth therein).

For at least the foregoing reasons, Applicants respectfully request that the rejection of the claims under 35 U.S.C. § 103 be withdrawn.

CONCLUSION

Accordingly, in view of the above amendments and remarks, reconsideration of the objections and rejections and allowance of each of the pending claims in connection with the present application is earnestly solicited.

Pursuant to 37 C.F.R. §§ 1.17 and 1.136(a), Applicants hereby petition for a one (1) month extension of time for filing a reply to the outstanding Office Action and submit the required \$130 extension fee herewith.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John A. Castellano at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. §1.17; particularly, extension of time fees.

Respectfully submitted,

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